



**ACCA**  
Acute Cardiovascular  
Care Association

# **ACUTE CARDIOVASCULAR CARE2019**



**2-4 March**  
**Malaga, Spain**

[www.escardio.org/acutecvd](http://www.escardio.org/acutecvd)  
**#ACUTECVD19**



**ESC**  
European Society  
of Cardiology



European Society of Cardiology > Congresses & Events > Acute Cardiovascular Care  
> Scientific Programme

# Topic list

## Acute Cardiovascular Care Congress

Abstract submission and scientific sessions cover a wide array of topics:

### Imaging

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Echocardiography

Intraoperative and Interventional Echocardiography

Computed Tomography

Coronary CT Angiography

### Arrhythmias and Device Therapy

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Arrhythmias, General

Arrhythmias, General - Treatment

Cardioversion and Defibrillation

Atrial Fibrillation

Atrial Fibrillation - Epidemiology, Prognosis, Outcome

Sudden Death in Patients with Atrial Fibrillation

Atrial Fibrillation - Treatment

Rhythm Control, Cardioversion

Syncope and Bradycardia

Syncope and Bradycardia - Pathophysiology and Mechanisms

Bradycardia - AV-Block

Tachycardia

Non-arrhythmogenic Mechanisms of Syncope

Syncope and Bradycardia - Treatment

Drug Treatment

Pacemaker Therapy

Syncope and Bradycardia - Clinical

## Ventricular Arrhythmias and Sudden Cardiac Death (SCD)

Ventricular Arrhythmias and SCD - Treatment

Management of Out of Hospital Cardiac Arrest

Device Treatment of Ventricular Arrhythmias and SCD

Ventricular Arrhythmias and SCD - Clinical

Device Therapy

Device Complications and Lead Extraction

## Heart Failure

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Acute Heart Failure

Acute Heart Failure - Diagnostic Methods

Acute Heart Failure: Biomarkers

Acute Heart Failure: Imaging

Acute Heart Failure: Treatment

Acute Heart Failure: Pharmacotherapy

Acute Heart Failure: Non-pharmacological Treatment

Acute Heart Failure: Clinical

## Coronary Artery Disease, Acute Coronary Syndromes, Acute Cardiac Care

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Acute Coronary Syndromes

Acute Coronary Syndromes - Pathophysiology and Mechanisms

Acute Myocardial Ischemia

Thrombosis, Platelets, and Coagulation

Acute Coronary Syndromes: Inflammation

Vulnerable Plaque

Vasospasm

Reperfusion and Reperfusion Injury

Left Ventricular Remodeling

Acute Coronary Syndromes - Epidemiology, Prognosis, Outcome

Acute Coronary Syndromes - Diagnostic Methods

Acute Coronary Syndromes: Biomarkers

Acute Coronary Syndromes: Angiography, Invasive Imaging, FFR

## Acute Coronary Syndromes - Treatment

Acute Coronary Syndromes: Lifestyle Modification

Acute Coronary Syndromes: Pharmacotherapy

Acute Coronary Syndromes: Antiplatelet Agents

Acute Coronary Syndromes: Thrombolysis/Fibrinolysis

Acute Coronary Syndromes: Drug Treatment, Other

Acute Coronary Syndromes: Treatment, Revascularization

Acute Coronary Syndromes - Prevention

Acute Coronary Syndromes - Clinical

Unstable Angina

Non-ST-Elevation Myocardial Infarction (NSTEMI)

ST-Elevation Myocardial Infarction (STEMI)

Acute Coronary Syndromes: Shock

Acute Coronary Syndromes: Post-Infarction Period

Acute Coronary Syndromes: Myocardial Infarction with Non-obstructive Coronary Arteries

Acute Coronary Syndromes: Tako-Tsubo Cardiomyopathy

Acute Cardiac Care

Acute Cardiac Care - Resuscitation

Acute Cardiac Care - Prehospital and Emergency Department Care

Acute Cardiac Care - CCU, Intensive, and Critical Cardiovascular Care

Acute Cardiac Care - Cardiogenic Shock

Acute Cardiac Care - Cardiac Arrest

## Valvular, Myocardial, Pericardial, Pulmonary, Congenital Heart Disease

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Pericardial Disease

Pericardial Disease - Clinical

Pericardial Effusion

Pulmonary Circulation, Pulmonary Embolism, Right Heart Failure

Pulmonary Circulation, Pulmonary Embolism, Right Heart Failure - Treatment

Pulmonary Circulation, Pulmonary Embolism, Right Heart Failure: Pharmacotherapy

Pulmonary Circulation, Pulmonary Embolism, Right Heart Failure: Intervention

Pulmonary Circulation, Pulmonary Embolism, Right Heart Failure - Clinical

## Pulmonary Embolism

# Diseases of the aorta, Peripheral Vascular Disease, Stroke

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Diseases of the aorta

Diseases of the aorta - Clinical

Acute Aortic Syndromes, Aortic Dissection

Aortic Aneurysm, Thoracic

Aortic Aneurysm, Abdominal

# Interventional Cardiology and Cardiovascular Surgery

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Interventional Cardiology

Coronary Intervention

Coronary Intervention: Primary and Acute PCI

Coronary Intervention: Mechanical Circulatory Support

Coronary Intervention: Restenosis

# Cardiovascular Pharmacology

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Pharmacology and Pharmacotherapy

Cardiovascular Pharmacotherapy

Anticoagulants

Antiplatelet Drugs

Diuretics

Nitrates

Lipid-Lowering Agents

Anti-Diabetic Pharmacotherapy

# Cardiovascular Nursing and Allied Professions

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Acute Nursing Care

# E-Cardiology / Digital Health, Public Health, Health Economics, Research Methodology

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## **e-Cardiology / Digital Health**

### **Computer Modeling and Simulation**

# Association of biomarkers of oxidative stress, stress glycaemia and glycated haemoglobin with coronary artery disease

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**On behalf:** none

## Topic(s):

Acute Coronary Syndromes: Biomarkers

## Citation:

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**Introduction:** Reactive oxygen species (ROS) are responsible for generalized oxidation which results in cell dysfunction, necrosis or apoptosis. Assessment of oxidative stress markers could modify course of treatment of patients with coronary artery disease (CAD).

The aim of this study was to evaluate association of markers of oxidative stress, stress glycaemia and glycated hemoglobin (HgbA1c) with CAD.

**Methods:** Cross-sectional observational study. Variables: demographics, risk factors and co-morbidities, lipoprotein and glycemic profile, oxidative stress biomarkers: malondialdehyde (MDA) and hydro peroxide (HP), and antioxidant enzymes: superoxide dismutase (SOD), CATALASE and glutathione peroxidase (GPS). Comparison was performed between CAD patients and healthy controls, patients with acute coronary syndrome (ACS) versus chronic CAD, and between PCI revascularised and stable post MI patients.

**Results:** 300 patients, (64.7% m/36.3% f), mean age 62±11 y. (p=ns between genders). 187 (62.3%) were ACS and 113 (37.7%) chronic CAD patients. There was no statistical significant difference in the risk profile between the CAD groups. Patients with CAD had significantly higher pro-oxidative and significantly lower anti-oxidative levels of biomarkers (Table 1), as compared with healthy volunteers. Statistically significant differences were observed for HP and SOD between ACS and HCAD group. In HCAD group, revascularized patients demonstrated higher oxidative stress as compared to stable post MI patients. In ACS patients statistical significant intergroup difference was registered, but not pointing to the single type of ACS. ACS patients had also higher levels of stress glycaemia and HgbA1c. Significant positive correlation were found for HgbA1c and stress glycaemia with MDA ( $r=,154^{**}$ ,  $p=0,008$ ;  $r=,254^{**}$ ,  $p=0,024$  respectively).

**Conclusion:** CAD patients demonstrated pronounced oxidative stress when compared to healthy controls, ACS patients had higher oxidative stress as compared with chronic CAD patients, PCI sub-group performed worse than stable post MI patients. Higher oxidative stress activity was linked to worse glycemic control as measured through stress glycaemia and HbA1c.

Patients subgroup	Nr	Marker of oxidative stress				
		MDA	HP	SOD	CAT	GPX
		(nm/ml)	(CARR U)	(U/ml)	(KU/L)	(U/ml)
CAD	300	34,1±9,1	282,7±73,9	131,7±113,0	64,6±38,1	6,4±6,0
Healthy volunteers	30	22,2±6,7	240,5 ±62,2	358,7±180,9	99,1±36,7	7,0±5,5
p		<0,00001	<0,00185	<0,00001	<0,000013	ns
ACS	187	34,3±7,6	293,6±76,3	118,8±106,9	63,2±39,5	6,5±6,9

HCAD	113	33,2±7,9	256,1±72,1	153,2±119,9	66,8±36,8	6,3±4,9
p		ns	0,0102	0,0031	ns	ns
Asymptomatic HCAD	17	33,5±5,8	336,1±92,0	129,7±114,7	78,3±40,9	5,1±4,5
PCI revascularized	30	34,8±0,6	285,3±61,9	101,9±76,9	52,5±34,6	5,9±4,5
Post MI	66	33,6±6,4	260,3±68,4	182,2±122,1	70,5±33,3	7,3±5,6
p		ns	0,0006	0,0010	0,0394	ns
STEMI	84	34,6±9,7	278,8±68,9	106,8±91,1	67,0±37,1	4,7±5,7
NSTEMI	22	30,2±6,1	307,3±73,4	82,8±79,0	63,6±31,8	7,9±5,4
APNS	81	34,9±10,9	286,1±77,1	140,4±123,5	59,3±39,5	7,9±8,8
p		0,0441	0,0719	0,034	ns	0,0314